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Remarks

Claims 1-23 were pending in the application. Claims 1-12 were withdrawn. Claims 13-23 were rejected. No claims were merely objected to and no claims were allowed. By the foregoing amendment, claims 1-12 are canceled, claims 13 and 15-23 are amended, and no claims are added. No new matter is presented.

Claim Rejections-35 U.S.C. 112

Claims 21 and 22 were rejected under 35 U.S.C. 112(1). Applicants respectfully traverse the rejection as to the amended claims.

At the paragraph numbered 2, the Office action asserted that limitations of claim 21 constituted new matter in that "the specification teaches 'off-radial'... [whereas] claim 21 is claiming 'radially inward'." For ease of reference, Applicants' further references are made to the present PGPub. 2005/0126595 A1 which has slightly different paragraph numbering than the original unformatted specification. Present application paragraph 0040 identifies gas that "flows inward into the combustion conduit interior through the slots." The claim identifies the flow as having "a radially inward velocity component and a longitudinally downstream velocity component." Thus the exact flow is, by definition, off-radial and is therefore consistent with the passage cited in the Office action and is supported by PGPub. paragraph 0040 as noted above and 0041 which recites "that the discharge outflow is off-radial (e.g., by an angle θ so as to have a downstream longitudinal component)." By definition, that flow also has a radial component and, therefore, the claims are fully supported by the as-filed specification.

Claims 13-23 were rejected under 35 U.S.C. 112(2). Applicants respectfully traverse the rejection as to the amended claims.

Claim 13 was asserted as "indefinite because the preamble recites removing the material and the positive method steps only recite loosening the material." While Applicants disagree, the positive method steps have been amended to correspond.

It was asserted that "it is unclear what is meant by a pressurized gas to substantially resist upstream infiltration of a contaminant." Examples of resistance to the upstream infiltration are discussed in paragraph 0042 of the PGPub. The foregoing amendment has deleted the term

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"substantially" and added the clarifying language "within the conduit".

It was asserted that "it is unclear the structural relationship between the vessel and the conduit." By the foregoing amendment, the relative positioning of conduit and vessel has been clarified.

Claim 15 was asserted as "indefinite because it is unclear what is meant by a major portion of air." The claim identified a majority of the gas as being air. However, the claim has been amended to identify the gas as comprising air.

Claim 16 [presumed by Applicants to be 21] was asserted as "indefinite because it is unclear what is meant by a radially inward velocity component and a longitudinally downstream velocity component." The text is believed clear in view of the specification at PG Pub paragraph 0041 and FIG. 16. In FIG. 16 (with the sheet viewed in landscape orientation) the radially inward direction from the holes 188 is downward (i.e., toward the caption "FIG. 16"). The longitudinally downstream direction is leftward (i.e., toward FIG. 8). In FIG. 16, if the holes 188 were rotated approximately 30° counterclockwise, they would be oriented approximately directly radially inward (i.e., the gas would have no longitudinal upstream or downstream component). If rotated further, the gas would have a longitudinal upstream component. Accordingly, no amendment is believed required. However, the examiner is invited to contact the undersigned if she believes any specific amendment would be advantageous.

Claim 16 was asserted as "indefinite because if the flowpath length within the conduit is not known, how can one determine 20% of the length." Applicants are uncertain why the examiner asserts that the flowpath length within the conduit is unknown. This would be the length from the conduit inlet to the conduit outlet which would be known. Applicants note that the flowpath may extend beyond the conduit (i.e., the flow of discharged gases may continue from the outlet to locations in the interior of the vessel). Accordingly, no amendment is believed necessary. However, if the examiner believes any specific amendment to be appropriate, she is invited to contact the undersigned.

Claims 17 and 18 were asserted as "indefinite because the gas lacks fuel only prior to being introduced into the conduit." In alternative ways, these two claims distinguish hypothetical situations wherein the claimed pressurized gas might be asserted as being the oxidizer and/or the fuel. For example, when air is the pressurized gas it may be introduced without fuel (even if an

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additional supply of air is also used as the oxidizer). Similarly, claim 18 would cover a situation where nitrogen or inert gas is used as the pressurized gas and air is used as the oxidizer. If the examiner has any questions, she is invited to contact the undersigned to discuss. For clarification, however, the claims have been amended to identify the full antecedent term "pressurized gas". This would distinguish gas formed by combustion of the fuel and oxidizer.

Claim Rejections-35 U.S.C. 102

Claims 13-18 were rejected as being anticipated by Ruegg et al. (U.S. PGPub.2004/0112306). Applicants respectfully traverse the rejection.

Paragraph 45 of Ruegg et al. was identified as identifying an air purge. This paragraph specifically recites use of compressed air to clean the inner pipe 22 "of the residues of the explosion..." Specifically, Ruegg et al. shows a compressed air tank 42 introducing the compressed air at the upstream end of the inner pipe 22 of FIG 2. The downstream end of that pipe is connected to a "thin-walled container 25." Thus, the container 25, itself, appears to prevent the upstream infiltration of contaminants. Accordingly, the function of the air would be limited to purging the conduit into the container and not resisting upstream infiltration of a contaminant.

Clearly, Ruegg et al. fails to disclose the particular location of claim 16. Instead, Ruegg et al. teaches the most upstream of compressed air introduction.

Claim Rejections-35 U.S.C. 103

Claims 13-18 were rejected as being unpatentable over Plavnik et al. (U.S. Patent No. 6,684,823) in view of Ruegg et al. Applicants respectfully traverse the rejection.

As noted above, Ruegg et al., and thus the proposed combination, fails to suggest the use of pressurized gas to resist upstream infiltration of a contaminant. There also is no suggestion for the particular location of claim 16. Although it was asserted as being well known "to purge any system for purposes of removing contaminants", the Office action apparently did not consider the upstream infiltration element due to the asserted indefiniteness. This asserted indefiniteness has been addressed above.

Regarding claims 16 and 19, Plavnik et al. was asserted as teaching "different

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embodiments in which air is introduced along different lengths of conduit." Office action, page 5, final paragraph. No specific citation was made for introduction in the presently-claimed longitudinal location of claim 16 and circumferential locations of claim 20. Nothing in Plavnik et al. suggests these locations. For example, the combustion air introduction appears single-point for each conduit.

Regarding claims 17 and 18, reference was merely made to Ruegg et al. which has been addressed above as failing to suggest the claimed subject matter.

Regarding claims 20-22, it was merely asserted to "have been within the level of the skilled artisan to introduce the gas in any desired manner in order to effectively remove and thereby clean the system of residual contaminants." Office action, spanning pages 5 and 6. However, there is no suggestion that the desired manner would be the presently-claimed manner. For example, there would be no suggestion for anything more than a single-point, non-continuous purge if even that.

Regarding claim 23, reference was merely made to Plavnik et al. However, there is clearly no suggestion in Plavnik et al. for introducing the pressurized gas supplemental to any purge flow.

Claims 19-22 were rejected as being unpatentable over Ruegg et al. Applicants respectfully traverse the rejection.

The Office action asserted that "it would have been within the level of the skilled artisan to introduce the gas in any desired manner in order to effectively remove and thereby clean the system of residual contaminants." Office action at paragraph 11. There is no suggestion that the presently-claimed manner would have been desired by one of ordinary skill in the art. There is no indication that one of ordinary skill in the art implementing the cleaning role of Ruegg et al. would form the curtain of claim 19 let alone have the continuous introduction of claim 20 (clearly contrary to the limited cleaning purge of Ruegg et al). There is further no suggestion for the radially inward and tangential velocity components of claims 21 and 22.

Double Patenting

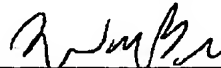
Claims 13-16 were provisionally rejected as unpatentable over claims 5-9 of copending

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application 10/718,855. Given the provisional nature of this rejection, a Terminal Disclaimer will be submitted if the objection becomes non-provisional.

Accordingly, Applicants submit that claims 13-23 are in condition for allowance. Please charge any fees or deficiency or credit any overpayment to our Deposit Account of record.

Respectfully submitted,

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I hereby certify that this correspondence is being faxed this 17th day of October, 2005 to the
USPTO at Fax No. 1-571-273-8300.


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